Space Weather Forecast

Issued on Tuesday, 04 January 2022 at 00:25 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: No significant activity.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity was Very Low over the past 24 hours. There is one sunspot containing active region on the Earth-facing disc, a new bipolar region in the southeast, although this is small and simple, The larger region that has been moving across the disc through the past week as now rotated off the Earth-facing disc.

No Earth-directed Coronal Mass Ejections (CMEs) have been observed in the available imagery.

Solar Wind / Geomagnetic Activity: Solar winds rose through the morning to became strong between 03/0500 UTC and 03/0700 UTC, peaking 621 km/s. These then eased again to around 450-500km/s after 03/1600 UTC. The magnetic field strength remained generally weak, but had a brief peak of moderate strength at 03/0900-1000 UTC. The important north-south component had a period of persistent weakly negative (southward) values from 03/0300 UTC to 03/0930 UTC before rotating to be weakly positive. These parameters are consistent with a weak transient feature passing Earth. Geomagnetic activity has been mostly Quiet to Unsettled (Kp 1-3), but an Active (Kp 4) interval was recorded 03/0300-0600 UTC.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Very Low or Low solar activity is expected, but with a slight chance of Moderate class flares on days 1 and 2 (3rd and 4th).

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs. Solar winds are expected to be easing to background with no notable enhancements expected through the forecast period. Geomagnetic activity will be mainly Quiet with only a slight chance of Unsettled interval

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to persist at background with no solar radiation storms occurring.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Met Office Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	5	5	5	5
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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